

SHABAROV, Yu.S.; POTUPOV, V.K.; KOLOSEOVA, N.M.; PODTEREBKOVA, A.A.;
~~SVETINA~~, V.S.; LEVINA, R.Ya.

Cyclopropanes and cyclobutanes. Part 38: Nitration of 2-substituted
phenylcyclopropanes. Zhur. ob. khim. 34 no.9:2829-2832 S '64.
(MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet.

SHABAROV, Yu.S.; POTAPOV, V.K.; LEVINA, R.Ya.

Ceclopropanes and cyclobutanes. Part 39: Electron-donor properties
of small rings. Zhur. ob. khim. 34 no.9:2832-2834 S '64.

(MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet.

SHABAROV, Yu.S.; POTAPOV, V.K.; LEVINA, R.Ya.

Ortho- and para-substituted phenylcyclopropanes. Zhur. ob. khim.
34 no.9:3127-3128 S '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet.

SHABAROV, Yu.S.; DONSKAYA, N.A.; SYCHKOVA, L.D.; LEVINA, R.Ya.

Cyclopropanes and cyclobutanes. Behavior of phenylcyclobutane
in the reactions of electrophilic substitution. Vest. Mosk.
un. Ser. 2:Khim. 20 no. 5:73-76 S-0 '65. (MIRA 18:12)

1. Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo
universiteta. Submitted Nov. 9, 1964.

BORISOV, V.A., kand.tekhn.nauk; SHABARCHIN, A.P., inzh.

Effective method for evaluating the agglutination of cold
asphalt-concrete mixes. Avt.dor. 25 no.7:17-18 J1 '62.
(MIRA 15:8)

(Asphalt concrete--Testing)

Country : USSR
 Category : Farm Animals. Q
 The Honeybee.
 Abs. Jour : Ref Zhur-Biol., No 21, 1956, 96941
 Author : Shabardin, M. I.
 Institut. : Kirov Institute of Agriculture.
 Title : Bees of the Kirovskaya Oblast'.
 Orig Pub. : Tr. Kirovskogo s.-kh. in-ta, 1957, 12, No 24,
 75-84
 Abstract : The length of the proboscis in local bees is
 6.15 ± 0.005 mm. When Caucasian bees were hy-
 bridized with local breeds, the length of the
 proboscis decreased from 6.84 ± 0.02 to
 3.26 ± 0.015 in the third generation. Mass im-
 ports of Kuban yellow bees and Georgian high-
 mountain bees proved to be unjustified; the
 hybrid colonies collected less honey than lo-
 cal colonies.

Card: 1/1

CATEGORY : Farm Animals. Honeybee
 Abs. Jour. : ZBiol., No. 13 1958, No. 59646
 Author : Shabardin, M. I.
 INST. : *Kirovskaya Oblast' im N.E. Bauman*
 TITLE : The Honeybees of Kirovskaya Oblast

Orig. Pub. : Pchelovodstvo, 1957, No.2, 22-25

Abstract : From the experience of bringing 6,000 Kuban
 Yellow and in part, Gray High-Mountain bees
 into Kirovskaya Oblast, the conclusion is
 drawn that this transfer of honeybees brought
 about no positive results. The hybrid colo-
 nies of High-Mountain bees had a prolonged
 ligula in the first generation, were less
 bad-tempered and produced more honey (though
 not in all cases). These positive character-
 istics disappear in subsequent generations.

CARD: 1/1

SHABARIN, A.K.

DECEASED

SEE ILC

1. 1.

34040. Katsional'naya smeska syr'ye. (Ogt'ivan. pryedil'noy fabriki im dzerzhinskogo). Tekstil. Pro -st', 1949, No. 10, s. 45

50: Knizhuaya Letopis', Vol. 7, 1955

SHABARIN, I.G., prof.

Problem of dietetic (combinde) ensilage in the prevention of non-
infectious diseases of productive livestock. Veterinarila 36 no.2:
63-67 F '59. (MIRA 12:2)
(Ensilage) (Veterinary hygiene)

CA SHABAROVA, N. T.

Nitrogenous substances of sapropel. N. T. Shabarova
Trudy Lab. Sapropel. Otkrytiya Akad. Nauk S.S.S.R., 1951, Leta 1950, No. 4, 40-54.—The N-contg. materials of sapropel from lakes of Moscow and Kalinin region are a complex mixt. of protein and nonprotein types. Only insignificant amts. are extd. by usual methods. After acid hydrolysis the solns. contain fractions typical of proteins (N of bases, N of monamino acids, amide N); about 50% of monamino acid N consists of amide N. About 50% of total N is insol. after hydrolysis with mineral acids. In the protein fraction there occur arginine, histidine, leucine, tyrosine, cystine, leucine, alanine, and aminocarboxylic acids. Purines are very

low and tryptophan is absent. The sapropel proteins do not differ in gross compn. from vegetable proteins. Total N (4.5-5%) remains const. as one goes into deeper layers of sapropel but insol. N rises while NH₄, amides, and aminocarboxylic acids decline. Tyrosine composes 2-3.5% of the protein at all depths. No NH₄ N is found beyond about 3-4 m. depth.
G. M. Kosolapoff

VEBER, V.V., professor; GORSKAYA, A.I.; YEGOROV, Ye.N.; MANUCHAROVA, Ye.A.;
MESSINEVA, M.A.; RADCHENKO, O.A.; REMEZOVA, T.S.; ROMM, I.I.;
SAVICH, V.G.; SKADOVSKIY, S.N.; UL'M, V.A.; FOKINA, N.I.; FORSH, T.B.;
SHADAROVA, N.T.; SHCHAPOVA, T.F.; EBERZIN, A.G.; YURKEVICH, I.A.

Results of the comprehensive study of contemporary analogues of oil-
bearing facies. Trudy VNIGNI no.2:111-121 '51. (MLRA 10:4)
(Petroleum geology)

SHABAROVA, N. T.

USSR/Minerals-Petroleum

Card : 1/1

Authors : Shabarova, N. T., Cand. of Biological Sciences

Title : Processes of petroleum formation

Periodical : Priroda, 6, 95 - 97, June 1954

Abstract : The underground chemical conversion processes leading to the formation of petroleum deposits are explained theoretically. Even though petroleum is found in various geological conditions and at various depths, its elementary composition varies only slightly, e.g. carbon between 84 and 86% hydrogen between 12 and 14%. The concept about the formation of petroleum deposits, as result of scattered bitumena, is declared baseless. Diagram showing the conversions of an organic substance in sea deposits is included.

Institution : All-Union Scientific Research Petroleum Institute

Submitted :

Shabarova, N. T.

Determination of chlorophyll in sea plants and in sea deposits of recent origin. N. T. Shabarova (All-Union Petroleum Geol. Research Inst., Moscow Affiliate). *Biokhimiya* 19, 150-80 (1974).—The chlorophyll content is highest in the blue-green algae and lowest in the red. It is higher in *Zostera nana* than in *Ruppia spiralis*. The chlorophyll content of recent sea deposits is in correspondence with the type of algae of which it predominantly consists. Algal cell pigments combine with proteins to form chromoproteins and possibly with lipides to form chromolipides. There is a generic connection between the org. substances of recent sea sediments and the original type of sea vegetation. It is confirmed that the org. sea complexes effect the preservation of the vegetable pigments. B. S. Levine.

Shabrova, N. T.

Organic matter of marine sediment. N. T. Shabrova,
Uspekhi Sovetskoi Biol. 37, 203-8 (1964). Review with
31 references. J. P. Danby.

22/5/55

SHABAROVA, N. T.

✓ The intermediate products of decomposition of the organic matter by marine organisms under laboratory conditions. N. T. Shabarova (All-Union Sci. Research Inst. Geol., Paleontol., Moscow). *Biokhimiya* 21, 380-6 (1966). The organisms used were *Ruppia spiralis*, *Zostera nana*, *Cladophora sinuata*, and *Pontagammurus maoticum*. An air-dried weighed sample of each was placed in an Erlenmeyer flask to which was added sea water of known composition. By appropriate means the NH_3 and H_2S were absorbed into H_2SO_4 and $\text{Cd}(\text{NO}_3)_2$. CO_2 , H_2 , and CH_4 were collected into a concd. soln. of CaCl_2 . The removal of the gaseous products created anaerobic conditions in the flasks. Debris were made of residual solid matter and its total N content. Studies were also made of the intermediate products of decomposition of the organic matter of the sea specimens. The dry residues were: *Z. nana*, 61.00% of the initial yrt.; *R. spiralis*, 40.18%, and *C. sinuata*, 25.40%. It was concluded that the process of decomposition of organic

matter under the exptl. conditions proceeded at different rates. This was confirmed by the rate of decomposition of the N substances. Total residual N on the basis of initial N was: *Z. nana*, 50.20%; *R. spiralis*, 35.73%; *C. sinuata*, 15.90, and *P. maoticum* 11.50, pointing to a direct relation between the quantity of residual dry substance and the residual total N. Results showed that under the exptl. conditions the N substances of *Z. nana* were the most stable. The decomposition of the N compounds was most intense in *R. spiralis*, followed by that of *C. sinuata*. The rate of decomposition of the N substances of *P. maoticum* was higher than any of the plant-type species. After the removal of the dry substance the liquid remaining in the

Shabarova, N.T.

flasks was of a light-yellow to dark-brown color. Humulin detns. gave the following results: *Z. nana*, 221.1 mg./g.; *R. spiralis*, 3.1 mg./g.; *C. siwaschensis*, 6.0 mg./g. and *P. maeoticum*, 12.3 mg./g. Monoses in relation to dry substance were: *Z. nana*, 25.48%; *R. spiralis*, 7.38%; *C. siwaschensis*, 0.44% (alc-sol. carbohydrates, no monoses). The inference is drawn that in the chromogenic sea plants a relation exists between the physiologically mobile groups of carbohydrates and the generation of humins. No such relation appears in the green plants. The volatile organic acids were: *Z. nana*, 11.00 mg./g. on the basis of absolute dry substance; *R. spiralis*, 6.40 mg./g.; *C. siwaschensis*, 28.60 mg./g., and *P. maeoticum*, 21.00 mg./g. Qual. tests showed the presence of butyric, acetic, and formic acids. During the early stages of decomposition of *C. siwaschensis* polygluconic acid was also found. *Z. nana* and *R. spiralis* produced no H_2S . *C. siwaschensis* produced 13.1 mg./g. of H_2S and *P. maeoticum* 0.5 mg./g. Analysis of the gas mixtures showed the presence of CO_2 and of small quantities of CH_4 . The presence of C_2H_6 , C_3H_8 or of C_4H_{10} was not detected. Nine months after the initiation of the experiment *C. siwaschensis* produced 20 vols. % of CH_4 . After 4 months the chromogenic species produced 40 vols. % of H_2 . Analyses were also made of gases produced in sea silt kept in hermetically sealed bottles for several years. The presence of such gaseous end-products as CH_4 , H_2S , and NH_3 is a characteristic of reducing processes which occur under anaerobic conditions. On the other hand, the presence of NO_2 and of N_2 indicates the existence of aerobic conditions. CO_2 can be produced as a result of decarboxylation by oxidative as well as reducing reactions arising in the process of decomposition of sea plants or zoörganisms.

B. S. Leyva

SHABAROVA, N.T., kandidat biologicheskikh nauk.

Processes of petroleum formation. Priroda 43 no.6:95-97 Je '54.
(MLRA 7:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy
institut. (Petroleum)

SHABAROVA, N.T.

3

USSR J

The biochemical composition of deep sea silt deposits (ocean bottoms). N. T. Shabarova (All-Union Sci. Research Geol. Prospecting Petroleum Inst., Moscow). *Biokhimiya* 20, 146-51 (1955).—Results are presented of analyses of deep water deposits (at ocean bottom). Samples were taken of the following: argillaceous and diatomaceous silt of Far Eastern U.S.S.R., open-sea continental slopes, Black Sea grayish brown intermediate argillaceous silt, Black Sea black argillaceous mute depth silt (2 samples), sublittoral Caspian Sea dark-gray argillaceous silt, sublittoral White Sea gray silt interspersed with black. For purposes of comparison silt samples were taken from shallow spots of the Caspian and Black seas, the fore-set beds of the river Kura delta and of Lake Biscrovo of the Moscow region. For each sample data are presented on depth at which samples were taken, thickness of silt sample taken, pH, lipides, proteins, alc.- and H₂O-sol. hemicellulose, cellulose and total hydrocarbons, nonhydrolyzable residue, total org. compds., carbonates, ash, and residue not analyzed.

B. S. Levine

SHABAROVA, N. T.

Geo / Character of nitrogeous substances of sedimentary
deposits of the ancient Caspian and Apsheron formation.
N. T. Shabarova. Doklady Akad. Nauk S.S.S.R. 105,
144 (1965). A study of the nature of the nitrogeous
substances of the sediments of the ancient Caspian and of
the Apsheron formation was undertaken. It was concluded
that the nitrogeous compds. were of an albumin nature,
but underwent a thoroughgoing change with a tendency
toward accumulation of intermediate decompn. products
in the sediments. Tables show the content of total and
ammonia N in the ancient Caspian deposits and the forms
of N of the ancient Caspian and Apsheron deposits.
Gladys S. Macy

SHABAROVA, N. T.

Chemical composition of ancient sediments. N. T. Shabarova. Doklady Akad. Nauk S.S.S.R. 105, 1031-3 (1955).—Three siltstones from the post-Pliocene Caspian sediments contain 1-2% org. matter, composed of about 95% nonhydrolyzable material, several percent bitumens (lipides), about 1% nitrogenous albumins, and no carbohydrides. A middle Miocene petroliiferous silty sand contains 6.3% org. matter, of which 93.5% is bitumens. D. I. Milton

SHABAROVA, N.T.

Chemical composition of the organic matter in the waters of some
oil fields. Trudy VNIGNI no.27:81-87 '60. (MIRA 17:3)

SHABAROVA, N.T.

Distribution of organic matter in underground waters.

Sov. geol. 4 no.8:83-97 Ag '61.

(MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut.

(Water, Underground)

(Organic matter)

SHABAROVA, N.T.; TUNYAK, A.P.; NEKTAROVA, M.B.

Study of organic acids in underground waters. Geol. nefti i gaza
5 no.11:50-51 N '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut.
(Water, Underground--Analysis) (Acids, Organic--Analysis)

SHABAROVA, N. T.

Organic acids in ancient deposits. Dokl. AN SSSR 147 no.6:
1465-1466 D '62. (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut. Predstavleno akademikom N. M. Strakhovym.

(Acids, Organic) (Geochemistry)

SHARANOVA, Z. A.

"Synthesis and Properties of Pyrimidyl-Amino Acids and Pyrimidyl-(puryl)-Amides of Amino Acids and Peptides." Sub 2 Nov 51, Moscow
Order of Lenin State U imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in
Moscow during 1951.

Lead Chemical Sci

SC: Sum. No. 480, 9 May 55

SHABAROVA, Z.A.

USSR.

Synthesis of some aminoacyl derivatives of 4-aminopyrimidines. M. A. Prokof'ev and Z. A. Shabarova. *Doklady Akad. Nauk S.S.S.R.* 95, 997-1000 (1977). Refluxing 2.46 g. 4-amino-2,6-dimethylpyrimidine (I) and 0.42 g. $(\text{ClCH}_2\text{CO})_2\text{O}$ in 50 ml. dry CHCl_3 2 hrs. gave, after evapn. and treatment with Et_2O , 68% *N*- $\text{CH}_2\text{CH}_2\text{CO}$ deriv. m. 100-1° (from $\text{EtOH-Et}_2\text{O}$). This (0.5 g.) in 25 ml. liquid NH_3 kept in a sealed tube at room temp. 20 hrs., evapd., and extd. with hot C_6H_6 gave 0.2 g. I, m. 180°, while the liquid portion yielded 0.1 g. $\text{H}_2\text{NCH}_2\text{CO}_2\text{H}$, m. 239°. Refluxing 1.12 g. *o*- $\text{C}_6\text{H}_4(\text{CO})_2\text{NCH}_2\text{COCl}$ and 0.78 g. 4-amino-2-chloro-6-methylpyrimidine (II) in xylene 10 hrs., filtering hot and cooling the filtrate gave 70% *N*-(*N*-phthaloyl-ethyl) deriv. of II, m. 247-0° (from EtOH), which (1.05 g.) refluxed in 20 ml. abs. EtOH with 5 ml. *N*- $\text{NH}_4\text{H}_2\text{O}$ in abs. EtOH 1 hr. gave a ppt. of phthaloylhydrazide, does not m. 300°, while the filtrate (which gave a pos. ninhydrin reaction) on evapn. gave 4-amino-2-chloro-6-methylpyrimidine, m. 215°. Refluxing *o*- $\text{C}_6\text{H}_4(\text{CO})_2\text{NCH}(\text{CH}_2\text{Ph})_2\text{OCl}$ with II in xylene 10 hrs. as above gave 70% 1-[(*N*-phthaloyl-phenylalanyl)amino]-2-chloro-6-methylpyrimidine, m. 168° (from EtOH). To 1.68 g. *o*- $\text{C}_6\text{H}_4(\text{CO})_2\text{NCH}_2\text{CO}_2\text{H}$ in 20 ml. dry dioxane was added at 0° 1.96 ml. H_2N and 0.8 ml. EtO_2CCl , the mixt. treated after 10 min. with 1.23 g. I, allowed to stand overnight, filtered, and the filtrate dried with H_2O , yielding the *N*-(*N*-phthaloyl-ethyl) deriv. of I, m. 235-8° (from EtOH).

G. M. Kosolupov

SHABROVA, L. A.

USSR

Synthesis of some halopectyl and aminoacetyl derivatives of 2-aminopyrimidine and guanine. M. A. Prokof'ev, Z. A. Shabrova, and E. G. Antonovich (Moscow State Univ.) *Zhurn. Obshchei Khim.* 25, 397-401 (1955). (ClCH₂CO)₂O (1.7 g.) and 1.2 g. 2-allylglycylamino-4-hydroxy-6-methylpyrimidine in CHCl₃ gave 80% 2-chloroacetylallylglycylamino-4-hydroxy-6-methylpyrimidine (1), m. 150°; hydrolysis in hot H₂O 3 hrs. gave 2-amino-4-hydroxy-6-methylpyrimidine and chloroacetylallylglycine, m. 175°. Van Slyke detn. of amino N cleaves 1 with detn. of 2 amino groups. 1 shaken with liq. NH₃ 5 hrs. in autoclave gave 73% 2-allylglycylamino-4-hydroxy-6-methylpyrimidine, decomp. 210-18°; Van Slyke detn. yields 3 amino N groups, but if the specimen is digested 9 hrs. in concd. HCl, all 4 amino N groups are detd. Such hydrolysis gives the pyrimidine nucleus, glycylglycine and glycine. To 10 g. (ClCH₂CO)₂O at 90° was added 2-3 drops H₃PO₄ followed by 3 g. gua. ac; after 0.5 hr. at 120-5° the mixt. was cooled and ground with Et₂O, yielding 67% 2-chloroacetylallylglycylamino-4-hydroxypurine, m. 207-9° (preheated block) (from H₂O), which is stable to hot H₂O. Shaking this with liq. NH₃ in autoclave 3 hrs. gave 77% 2-allylglycylamino-4-hydroxypurine, does not m. 400°; Van Slyke detn. shows 1 amino N group. 2-allylglycylamino-4-hydroxy-6-methylpyrimidine (10.7 g.) added to 35 g. (BrCH₂MeCO)₂O in CHCl₃ and heated 3 hrs. at 75-80° gave 2-(α-bromopropionylamino)-4-hydroxy-6-methylpyrimidine, m. 170° (cf. C.A. 48, 1039f). This with liq. NH₃ several days in autoclave gave 4-oxo-6-methylpyrimidin-2,4,5-tri-(1-methylallyl)-4-imidazole, decomp. 280°. (1) M. A.

SHABAROVA, Z. A.

USSR/Chemistry - Albumina synthesis

Card 1/1 Pub. 22 - 31/52

Authors : Shabarova, Z. A., and Prokofyev, M. A.

Title : Synthesis of pyrimidino-3, 4- : 2', 3' imidoazolones-5'

Periodical : Dok. AN SSSR 101/4, 699-702, Apr 1, 1955

Abstract : It was proven experimentally that the reaction between the anhydride of chloroacetic acid and 4-aminopyrimidine occurring in fusion or in a chloroform solution results in the formation of homologous pyrimidino-3,4 : 2', 3'-imidoazolones-5'. The fact that the synthesis reaction follows through the stage of chloroacetylation of the amino group was confirmed by the synthesis of other pyrimidine groups which are already described in literature. The physico-chemical properties of the azolones obtained are listed. Four references: 2 USA, 1 USSR and 1 French (1909-1954).

Institution : The M. V. Lomonosov State University, The N. D. Zelinskiy Laboratory of the Chemistry of Albumin, Moscow

Presented by : Academician A. N. Nesmeyanov, October 25, 1954

SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Aminoacyl derivatives of nucleosides. The synthesis of N^6 -aminoacyl derivatives of 3- β -d-glucopyranosylcytosine. Dokl. AN SSSR 109 no.2:340-343 J1 '56. (MLRA 9:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Predstavleno akademikom A.N. Nesmeyanovym.
(Cytosine)

PROKOF'YEV, M.A.; SHABAROVA, Z.A.; SOKOLOVA, N.I.

Aminoacyl derivatives of various nucleosides and nucleotides.
Vest. Mosk. un. Ser. mat., mekh., astron. fiz., khim. 12
no. 6:215-224 '57.

(MIRA 11:10)

1. Laboratoriya khimii belka imeni akademika N.D. Zelinskogo
Moskovskogo gosudarstvennogo universiteta.

(Nucleosides)

(Nucleotides)

SHAFAROVA, Z.A.; SOKOLOVA, N.I.; PROKOF'YEV, M.A.

Aminoacyl derivatives of nucleosides. Part 1: Synthesis of N_6 -aminoacyls and N_6 -peptides derivatives of 3- β -d-glucopyranosylcytosene. Zhur.ob.khim. 27 no.10:2891-2897 0 '57.
(MIRA 11:4)

1. Moskovskiy gosudarstvennyy universitet.
(Cytosene) (Peptides) (Acyls)

5 H11111111 2.4
AUTHORS: Shabarova, Z. A., Sokolova, N. I.,
Prokof'yev, M. A.

79-11-26/56

TITLE: Aminoacyl Derivatives of Nucleosides (Aminoatsil'nyye
proizvodnyye nukleozidov).
II. Structure and Properties of the Aminoacyl- and Peptide-
Derivatives of 3- β -d-glucopyranosylcytosine (II. Struktura
i svoystva aminoatsil'nykh i peptidnykh proizvodnykh 3- β -d-
glyukopiranozilsitozina).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11,
pp. 3028-3034 (USSR)

ABSTRACT: The synthesis of the aminoacyl- and peptide-derivatives of
3- β -d-glucopyranosylcytosine was earlier described by the
authors. But the formula ascribed to the and products was set
up rather arbitrarily. Supplementary investigations were
needed for determining the correct structure. Besides the
authors considered it necessary in examining the aminacyl-
and peptide-derivatives of the nucleosides, as possible
fragments of the nucleoproteins, to investigate the properties
of the obtained compounds more thoroughly, especially also
the hydrolysis of the amido-bond. They attempted to determine
the structure of the obtained products spectroanalytically by

Card 1/3

Aminoacyl Derivatives of Nucleosides.

79-11-26/56

II. Structure and Properties of the Aminoacyl- and Peptide-Derivatives of 3-β-d-glucopyranosylcytosine

comparison. It was shown that N_c-aminoacyl- and N_c-peptide-derivatives of nucleoside form in the reaction of the aminoacylation of cytosine-nucleoside with mixed anhydrides of kbs-amino acids and kbs-peptides. The amido-bond in the N_c - kbs - aminoacyl- and N_c - kbs - peptide-derivatives of cytosinenucleoside is to be influenced by hydrolysis of water not at all, by acid hydrolysis with difficulty and only by alkali easily. There exists a dependence of the duration of hydrolysis on the character of the aminoacyl residue which forms the amido-bond. There are 5 figures, 2 tables, and 4 references, 2 of which are Slavic.

Card 2/3

Aminoacyl Derivatives of Nucleosides.

79-11-26/56

II. Structure and Properties of the Aminoacyl- and
Peptide-Derivatives of 3- β -d-glucopyranosylcytosine

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy
universitet)

SUBMITTED: October 9, 1956

AVAILABLE: Library of Congress

1. Nucleosides - Aminoacyl derivatives
2. 3- ~~β~~ -d-glucopyranosylcytosine - Derivatives

Card 3/3

SHABAROVA, Z. A.,

M. A. Prokof'yev and Z. A. Shabarova

"The synthesis of derivatives of amino acids with nucleotides and nucleosides"

report presented at the 10th All-Union Conf. on Highly Molecular Compounds,
Biologically Active Polymer Compounds, Moscow, 11-13 June 1958. (Vest. Ak
Nauk SSSR, 1958, No. 9, pp. 111-113)

5(3)

SOV/20-123-5-26/50

AUTHORS:

Shabarova, Z. A., Satarova, L. G., Prokof'yev, M. A.

TITLE:

The Synthesis of P-Amino Acid Derivatives of Adenylic Acid
(Sintez P-aminokislotsnykh proizvodnykh adenilovoy kisloty)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 864-867 (USSR)

ABSTRACT:

The chemistry of the amino acid derivatives of nucleic acid and of the nucleotides is still in the pioneering stage, although these compounds play an important part in several biochemical processes. Compounds in which the amino acids are linked with mononucleotides by way of the phosphoric acid residue apparently play a role of particular importance. The present paper deals with the synthesis and the study of the properties of these compounds. The authors have produced 2 types of amino acid derivatives of adenosine-5'-phosphate: (I) compounds with a phosphoamine linkage between the nucleotide and the amino acid. They had hitherto not been described (Ref 1). Their synthesis was obtained by the action of amino acid ester on 2': 3'-isopropylidene-adenosine-5'-benzylphosphite (III) (Ref 2) in the presence of CCl₄ (Refs 3,4). The constants and the yields of the esters of the N-adenyl-amino acids produced are presented in table 1. The method of synthesis suggested by the authors is simple and guarantees sufficiently high yields. It must

Card 1/3

The Synthesis of P-Amino Acid Derivatives of Adenylic Acid SOV/20-123-5-26/50

be regarded as preparative and can apparently be extended to the other nucleotides. Finally, it was proved that the P-N linkage in substances of the type (I) is readily hydrolyzed by acids, but is hydrolyzed with difficulty by alkali. Thus the structure (shown in the scheme) was confirmed. The synthesized substances of the type (II) do not contain any phosphoamide linkage (see scheme). Of late, the methods of synthesis of mixed anhydrides of adenylic acid and of the amino acids have been studied intensively (Refs 5-8). The authors have succeeded in obtaining the mixed anhydrides of adenylic acid with kbz-leucine (kbz-leu-tsai) and kbz-glycine from 2' : 3'-isopropylidene-adenosine-5'-benzylphosphite according to the scheme given. As the authors were interested in the reactivity of the substance (II) with the amino acid under formation of peptides, they did not isolate (II); on the contrary, they proceeded to introduce it into the reaction with the amino acid ester. In this way, anhydrides of 2' : 3'-isopropylidene-adenosine-5'-benzylphosphoric acid with kbz-glycine (IIa) and with kbz-leucine (IIb) were produced. The substances IIa and IIb react with glycine or phenyl alanine methyl esters and form esters of kbz-glycyl-phenyl alanine and of kbz-leucyl-glycine. The formation of dipeptides

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The Synthesis of P-Amino Acid Derivatives of Adenylic Acid SOV/20-123-5-26/50

was demonstrated chromatographically.- There are 1 table and 10 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 16, 1958, by A.N. Nesmeyanov, Academician

SUBMITTED: July 10, 1958

Card 3/3

5(3)

AUTHOR:

Shabarova, Z. A. (Moscow)

SOV/74-28-4-2/6

TITLE:

Structure and Synthesis of Nucleosides (Struktura i sintez nukleozidov)

PERIODICAL:

Uspekhi khimii, 1959, Vol 28, No 4, pp 369-407 (USSR)

ABSTRACT:

A thorough development of the chemistry of nucleosides and nucleotides did not begin until new investigation methods were introduced by which the structure of natural nucleosides and nucleotides could be determined and methods for the synthesis of these compounds and their analogues could be developed. In the survey under consideration the simplest representatives of this class - the nucleosides - are discussed. Since the same nucleosides belong to the nucleotide coenzymes, as well as to NC (nucleic acid), here the nucleosides precipitated from NC (Table 1) are discussed. Moreover, nucleosides obtained from other natural objects are considered. Tables 4 and 5 contain data on synthetic nucleosides. In determining the structure of nucleosides the following questions have to be considered: a) the nature of the bases, b) the nature of the sugars contained in the nucleosides,

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Structure and Synthesis of Nucleosides

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c) the point of attachment of the sugars to the base,
 d) the cyclic structure of the sugars; e) the configuration
 of the glucosidic center. At present it is maintained that
 adenin and guanin are the main purine bases belonging to
 the nucleosides of RNC (ribonucleic acid) and DNC
 (deoxyribonucleic acid). Both adenin and guanin were for
 the first time separated from NC hydrolysates (Refs 62, 63).
 Their structure was confirmed by the synthesis (Refs 66, 67).
 The carbohydrate components of the nucleic acid are only
 two sugars D-ribose and 2-deoxy-D-ribose which determine
 the type of NC (RNC and DNC). Gulland and his co-workers
 who investigated the ultra-violet absorption spectra of the
 natural nucleosides concluded that the glucosidic residue
 in purine nucleosides is attached to the nitrogen (in
 position 9(N₉)) of the imidazol cycle of the purine base.
 The problem of the position of the sugar attachment to the
 purine nucleus was finally solved by the comparison of
 synthetic nucleosides with a certain structure to nucleosides
 precipitated from nucleic acids. Levene and Tipson (Refs 112,
 113) gave the first evidence of the size of the oxidation

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cycle in the sugar of nucleosides; they showed the furanose structure of ribose in natural nucleosides. A micro method for determining the size of the sugar cycle has been developed recently on the basis of "titration with periodate" (Ref 130). The size of the sugar cycle of very weakly concentrated substances can be determined by this method. The determination of the glycosidic center in purine and pyrimidine nucleosides is based on the comparison of aldehydes obtained by oxidation with periodate (Refs 127, 131). Recently, the configuration of the nucleosides has been proved convincingly by chemical methods. On the basis of the data obtained on the structure of the nucleosides it was found that all purine nucleosides separated from NC hydrolysates are 9- β -D-ribo- and 9- β -D-2'-desoxyribofuranosides, respectively, of the respective purine bases, and the pyrimidine nucleosides are 3- β -D-ribo- and 3- β -D-2'-desoxyribofuranosides, respectively, of pyrimidine bases (Table 1). Free nucleosides do not always have this structure (Table 2). There are 3 different synthesis methods of pyrimidine nucleosides. The first method is the condensation of 2,4-dialkoxypyrimidine with halogen acyl sugar. In the

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On the synthesis of nucleosides

second method the nucleosides are formed by the effect of halogen acyl sugar on pyrimidine mercury derivatives with different substituents in the nucleus. In the third method glycosyl amines serve as initial substances which form pyrimidine nucleoside in the condensation with β -alkoxy- α -halogen acyl amides. The synthesis of purine nucleosides may be divided into three groups. The first group comprises methods which include an addition of the sugar residue to the finished purine nucleus. These syntheses usually take place by the effect of acetyl halogen sugar on metallic purine derivatives. The methods of the second group are based on the transformation of corresponding pyrimidine nucleosides into purine nucleosides by closing the imidazol cycle. In this case pyrimidine nucleoside is the starting point which has a sugar residue at the amino group in position 4(5) and a free amino group in position 5. In the third group glycosides are used as initial substances which are obtained from the diamide of imidazol-4,5-dicarboxylic acid. In the decomposition they are cyclized according to Hofman and change into the corresponding purine nucleosides. The good results obtained

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Structure and Synthesis of Nucleosides

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recently in the field of nucleoside synthesis render it possible to obtain various analogues of natural pyrimidine- and purine nucleosides. They are used in the study of metabolism, in the chemotherapy of tumors, and in other fields. There are 5 tables and 23 references, 5 of which are Soviet.

Card 5/5

AUTHORS: Shabarova, Z. A., Polyakova, Z. P., SOV/79-29-1-46/74
Prokof'yev, E. A.

TITLE: Aminoacyl Derivatives of Nucleosides (Aminoatsil'nyye
proizvodnyye nukleozidov).III. Synthesis of Aminoacyl
Derivatives of Adenosin and 9- β -d-Glucopyranosyl Guanin
(III. Sintez aminoatsil'nykh proizvodnykh adenzina i
9- β -d-glyukopiranozilguanina)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1,
pp 215 - 221 (USSR)

ABSTRACT: It was the aim of the present paper to synthesize the
aminoacyl derivatives of purine aminonucleosides which are
part of nucleic acid as well as adenosin and guanosin. The
initial adenosin was separated from adenosin triphosphoric
acid (=ATP). In this connection conditions of hydrolysis
were worked out which permitted a separation into two
directions without any difference (Scheme 1), according to
the quantity of pyridine solution in water, reaction
duration, pressure and temperature. In the one case adeno-
sin is formed as the main product beside adenosin-5-phos-

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Aminoacyl Derivatives of Nucleosides. III. Synthesis of Aminoacyl Derivatives of Adenosin and 9- β -d-Glucopyranosyl Guanin SOV/79-29-1-46/74

phoric acid, in the other case mainly the latter which was proved by paper chromatography (Ref 4). The separation of the two final products was carried out according to the absorption method. The other used purine nucleoside, 9- β -d-glucopyranosyl guanin (the analogue most similar to guanosin) was synthetically preserved according to Davoll and Lowy (Ref 5)(Scheme 2). The final product was a mixture of two guanins and was only to be separated by multiple re-crystallization into two isomers, 9- β -d and 7- β -d-isomer. Only the former was used for aminoacylation. Aminoacylation of adenosin and 9- β -d-glucopyranosyl guanin brought - after many failures - a success only with help of chloranhydrides of phthalyl aminoacids (Scheme 3). The reaction took place in boiling in absolute benzene in the presence of tributylamine or in absolute pyridine within several hours. The synthesized compounds are given by both tables. There are 2 tables and 11 references, 3 of which are Soviet. Moskovskiy gosudarstvennyy universitet (Moscow State University)

ASSOCIATION:

SUBMITTED:
Card 2/2

November 5, 1957

SOV/79-29-2-40/7

AUTHORS:

Shabareva, Z. A., Sokolova, N. I., Prokof'yev, M. A.

TITLE:

Aminoacyl Derivatives of Nucleosides (Aminoatsil'nyye proizvod-
nyye nukleozidov). IV. Synthesis of N₆-Polypeptide Derivatives
of 3-β-d-Glucopyranosyl Cytosine According to the "Carbodi-
imide" Method (IV. Sintez N₆-polipeptidnykh proizvodnykh
3-β-d-glyukopiranciltsitozina "karbodiimidnym" metodom)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 539-544 (USSR)

ABSTRACT:

The yields of aminoacyl nucleosides by aminoacylation of
cytosine nucleoside according to references 1,2 amounted only to
50% . Much better results are obtained according to the "carbo-
diimide" method (Ref 3). It consists in the aminoacylation of
the active amine group with an amino acid or a peptide in the
presence of an N,N'-diaryl carbodiimide. This method has a
great advantage over that mentioned above by which the peptide
bond is synthesized with mixed anhydrides of amino acids.
However, the latter are very unstable. The aminoacylation with
amino acids and peptides in the presence of carbodiimide takes
place in humid medium (even in water) at room temperature.

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SOV/79-29-2-40/71

Aminoacyl Derivatives of Nucleosides. IV. Synthesis of N₆-Polypeptide Derivatives of 3-β-d-Glucopyranosyl Cytosine According to the "Carbodiimide" Method

Besides, it is more favorable to introduce the free amino acid rather than their active derivatives. N,N'-dicyclohexyl carbodiimide was used as condensing agent (Ref 4) (Scheme 1). Thus, the yield of N₆-kbz-glycyl-3-β-d-tetraacetyl glucopyranosyl cytosine was increased from 34 to 55% and that of N₆-kbz-phenylalanyl-3-β-d-tetraacetyl glucopyranosyl cytosine was increased from 55 to 81%. The polypeptide derivatives of the cytosine nucleoside can be synthesized from monoacylamino nucleosides as well (Scheme 2). The monoaminoacyl nucleosides with a free amino group used in these syntheses were obtained by reduction according to scheme 3. There are 3 tables and 5 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: November 5, 1957

Card 2/2

5(3)

AUTHORS:

Shabarova, Z. A., Sokolova, N. I.,
Boykova, L. A., Prokof'yev, M. A.

SOV/79-29-9-23/76

TITLE:

Aminoacyl Derivatives of Nucleosides.
V. Synthesis of N₆-Aminoacyl- and N₆-Peptide Derivatives
of Cytidine

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2917-2922
(USSR)

ABSTRACT:

In continuation of their earlier research work (Ref 1) the authors deal here with the synthesis of cytidine (3-β-D-ribofuranosylcytosine) and its N₆-aminoacyl- and N₆-peptide derivatives. The so-called "carbodiimide method" is, as already previously shown, the most convenient method of synthesizing N₆-aminoacyl- and N₆-peptide derivatives of cytosine nucleoside. Its application to the synthesis of aminoacyl derivatives of cytidine made it possible to use in this reaction a nucleoside with non-substituted oxy-groups of saccharide, since no aminoacylation of the oxy-groups takes place under these conditions (Ref 6) (reaction scheme). Table 1 gives yields and constants of the synthesized

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Aminoacyl Derivatives of Nucleosides.

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V. Synthesis of N₆-Aminoacyl- and N₆-Peptide Derivatives of Cytidine

derivatives of cytidine. Thus, kbz-phenyl alanyl cytidine (yield 90%) resulted from the acylation of cytidine with phenyl alanine (kbz-phenyl alanine). Its ultraviolet absorption spectrum is equal to that of another well-known cytosine derivative (Ref 7) so that its structure is known; aminoacylation of cytidine proceeds also on the amino group under the formation of the N₆-aminoacyl- and N₆-peptide

derivative of cytidine with various amino acids (serine, tyrosine, cysteine, lysine) which contain also other functional groups apart from the α -amino group. The aminoacyl derivatives of 3- β -D-glucopyranosyl cytosine were synthesized in the same way (Table 2). As the various N₆-aminoacyl

derivatives obtained from cytosine nucleosides differ in the structure of the amino acid which forms the amide bond, or in the structure of the saccharide, the effect of these components on the hydrolytic stability of the amide bond was investigated. Table 3 shows the results of the hydrolysis of N₆-aminoacyl derivatives of cytidine and 3- β -D-glucopyranosyl

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Aminoacyl Derivatives of Nucleosides.
V. Synthesis of N₆-Aminoacyl- and N₆-Peptide Derivatives
of Cytidine

SOV/79-29-9-23/76

cytosine, containing the same amino acids and peptides, and, for comparison, also the data on the hydrolytic stability of the amide bond in the N₆-aminoacyl-3-β-D-tetraacetyl glucopyranosyl cytosine. The hydrolytic stability of the amide bond in the above compounds was found to depend on the nature of the hydrolyzing carbohydrate which forms part of the nucleoside, as well as on the nature of the aminoacyl residue. There are 3 tables and 8 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: July 19, 1958

Card 3/3

5 (3), 17 (3)

AUTHORS: Shabarova, Z. A., Sokolova, N. I.,
Prokof'ev, M. A.

SOV/20-128-4-29/65

TITLE: Peptide Synthesis by Means of Aminoacyl Derivatives of
Nucleosides

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 740 - 743
(USSR)

ABSTRACT: The compounds of nucleotides and ribonucleic acid (RNS) with
amino acids are poorly investigated (Ref 2) in spite of their
great importance for protein biosynthesis (Ref 1). In the
present paper, some O- and N-aminoacyl derivatives of nucleo-
sides formed as intermediates in the protein biosynthesis were
synthesized and studied. The authors tried, above all, to
clarify the ability of such compounds for a peptide synthesis
(i.e. for the amino acylation of free amino groups of amino
acids or peptides). 2 types of aminoacyl nucleosides: O-carbo-
benzoxy-phenyl-alanine derivatives of adenosine (type I) and
N₆-aminoacyl derivatives of cytidine (type II), were investi-
gated. The aminoacylating ability of the said synthesized sub-
stances (I) and (II) was studied under almost natural conditions

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Peptide Synthesis by Means of Aminoacyl Derivatives of Nucleosides SOV/20-128-4-29/65

namely in the presence of a ferment - chymotrypsine - at room temperature and at pH 8 (phosphate buffer solution). It was shown that both (I) and (II) easily react with the free amino group to form a new peptide bond. Table 1 shows a list of peptides which are formed by the effect of (I) and (II) on glycine-ethyl ester. Under the same conditions, but without a ferment, no peptide synthesis was observed. Only in one case - in the reaction of Ila (see Scheme) with glycine ester - traces of phenyl-alanine-glycine are formed, even without any chymotrypsine. The peptide formation from (I), (II) and the glycine ester also takes place without any ferment, but under harder conditions (by boiling in benzene). The above results indicate a high reactivity of the O- and N-aminoacyl derivatives of nucleosides. This suggests the possible participation of such compounds in the synthesis of the peptide bond. There are 1 table and 6 references, 3 of which are Soviet.

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Peptide Synthesis by Means of Aminoacyl Derivatives of Nucleosides SOV/20-128-4-29/65

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: May 22, 1959, by A. N. Nesmeyanov, Academician

SUBMITTED: May 17, 1959

Card 3/3

ANDRONOVA, L.G.; SHABAROVA, Z.A.; RYABOVA, T.S.; PROKOF'YEV, M.A.

Synthesis of P - N-amino acid (peptide) derivatives of adenylic acid and investigation of their properties. Zhur.ob.khim. 31
no.10:3243-3250 0 '60. (MIRA 14:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Amino acids) (Adenylic acid)

DREYMAN, E.Ya.; DMITRIYEVA, V.A.; KAMZOLOVA, S.G.; SHABAROVA, Z.A.;
PROKOF'YEV, M.A.

Synthesis of o-aminoacyl derivatives of adenosine and study of
their properties. Zhur.cb. khim. 31 no.12:3899-3905 D '61.
(MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Adenosine)

SHABAROVA, Z.A.; RYABOVA, T.S.; PROKOV'YEV, M.A.

Synthesis of nucleotide coenzymes and related compounds. Dokl.AN
SSSR 136 no.5:1116-1119 F '61. (MIRA 14:5)

1. Moskovskiy gos. universitet im. M.V.Lomonosova. Predstavleno akad.
A.N.Nesmeyanovym.

(Nucleotides) (Enzymes)

SOKOLOVA, N.I.; BAKANOVA, V.A.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Aminoacyl derivatives of nucleosides. Part 6: Synthesis and
properties of aminoacyl derivatives of deoxyribonucleosides.
Zhur. ob. khim. 33 no.8:2480-2486 Ag '63. (MIRA 16:11)

SHABAROVA, Z.A.

GOFMAN, A.; FREY, A.I.; RUTSHMANN, I.; OTT, Kh.; SHEMYAKIN, M.M.; KISHFALUDI, L.; KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; PROKOF'YEV, M.A.;
SHABAROVA, Z.A.; FILIPPOVA, L.A.; SHANKMAN, S.; KHAYGA, S.;
 LIV, F.; ROBERTS, M.Ye.; GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.; MAKSIMOV, V.I.; IZELIN, B.M.; SHEPPARD, R.K.; SHKODINSKAYA, Ye.N.; VASINA, O.S.; BERLIN, A.Ya.; SOF'INA, Z.P.; LARIONOV, L.F.;
 KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.; MEDZIGRADSKIY, K.; KAPTAR, M.; LEV, M.; KORENSKI, F.;
 BUASSONA, R.A.; GUTTMAN, St.; KHOYGENIN, R.L.; ZHAKENO, P.A.;
 BAZHUS, S.; LENARD, K.; DUAL'SKI, S.; SHREDER, Ye.; SHMIKHEN, R.;
 KHOKHLOV, A.S.

Results of the Fourth European Symposium on the chemistry of peptides. Abstracts of reports. Zhur. VKHO 7 no.4:468-476 (MIRA 15:8) '62.

1. Aktsionernoye obshchestvo "Sandoz", Basel', Shveytsariya (for Gofman, Frey, Ott, Rutshmann).
2. Farmatsevticheskaya fabrika "G.Rikhter", Budapesht, Vengriya (for Kishfaludi, Korenski, Dualski).
3. Institut khimii prirodnikh soedineniy AN SSSR, Moskva (for Kochetkov, Derevitskaya, Shemyakin, Khokhlov).
4. Laboratoriya khimii belka Moskovskogo gosudarstvennogo universiteta (for Prokof'yev, Shabarova, Filippova, Gavrilov, Akimova, Khludova).
5. Fond meditsinskikh issledovaniy, Passadena, Kaliforniya, Sev.Soyed.Shtaty Ameriki (for Shankman, Khayga, Liv, Roberts).
6. Laboratoriya khimii belka Instituta organicheskoy

(Continued on next card)

SKOLOVA, N.I.; BAKANOVA, V.A.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Isolation of pyrimidine deoxyribonucleosides and the production
of their aminocacyl derivatives. Biokhimiia 27 no.6:1079-1084
M-D 162. (MIRA 17:5)

1. Laboratoriya khimii belka Gosudarstvennogo universiteta imeni
Lomonosova, Moskva.

PROKOF'EV, M.A. [Prokof'yev, M.A.]; SHABAROVA, Z.A.; FILIPPOVA, L.A.

Peptide synthesis with some aminoacyl derivatives of nucleosides and nucleotides. Coll Cz Chem 27 no.9:2248-2249 S '62.

1. Moscow State University, U.S.S.R. (for Prokof'ev).

NAUMOVA, I.B.; SHABAROVA, Z.A.; BELOZERSKIY, A.N., akademik

Structure of ribbitteichoic acid from *Actinomyces streptomycini*.
Dokl. AN SSSR 152 no.6:1471-1474 O '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

*

RYABOVA, T.S.; GLEBOV, R.N.; SHABAROVA, Z.A.; PROKOV'YEV, M.A.

Synthesis of methyl ether of N-adenyl-5-phenylalanine by the
carbodiimide method. Dokl. AN SSSR 153 no.2:363-365 N '63.
(MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom A.N.Belozerskim.

SHABAROVA, Z.A.; SMIRNOV, V.D.; PROKOF'YEV, M.A.

Peptide synthesis with the participation of 3' (2')-O-phenylalanyladenosine.
Biokhimiia 29 no.3:502-507 My-Je '64. (MIRA 18:4)

1. Khimicheskii fakul'tet Gosudarstvennogo universiteta imeni Lomonosova,
Moskva.

VOROB'YEV, O.Y e.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Synthesis of nucleotidyl(5' N)phenylalanine by the pyrophosphate method. Zhur.ob.khim. 34 no.1:359-361 Ja '64. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni V.M.Lomonosova.

SAVEL'YEV, Ye.P.; RYABOVA, T.S.; BELETSKAYA, I.P.; SHABAROVA, Z.A.

Study of the kinetics of hydrolysis of the phosphoamide bond in
adenilyl-(5'→~~4~~)-phenylalanine. Dokl. AN SSSR 155 no.6:1457-1459
Ap '64. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom A.N.Belozerskim.

LEPNEVA, N. K.; SHABANOV, V. A.; LUDSKOV, M. A.

Fermentative hydrolysis of the phosphamide bond in nucleotidyl-
(5'→N)-amino acids. Dokl. AN SSSR 157 no. 2:473-474 J1 '64.
(MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
Predstavleno akademikom A. V. Pavlovskim.

SMIRNOV, V.D.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Synthesis of uridylyl-(5'→N)-phenylalanyl-3'(2')-O-adenosine.

Dokl. AN SSSR 160 no.4:845-848 F '65.

(MIPA 18:2)

1. Moskovskiy gosudarstvennyy universitet. Submitted July 25, 1964.

VOROB'YEV, O.I.; SHABEROVA, A.A.; PPOPOV'YEV, M.A.

Comparative study of the hydrolytic stability of nucleotidyl-
(P-N)-phenylalanine. Vest. Mosk. un. Ser. 2: Khim. 19 no.6:
66-71 N-D '64. (MIRA 18:3)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.

SHCHERBA, V.G.; SHABAROVA, L.A.; PROKHOROV, M.A.

Synthesis of adenosine-5'-phospho-pentylalanine. Vestn. Mosk. univ. Ser.
2:Khim. 19 no.4:81-82 4J-Ag '62. (MIRA 18:8)

1. Institut organicheskoy khimii Moskovskogo universiteta.

SHESTAKOV, V.G.; SHABAKOVA, Z.A.; PROKOF'YEV, M.A.

Properties of methyl ester of P^1 -(adenosine-5) -diphospho-
($P^2 \rightarrow N$) phenylalanine. Biokhimiia 29 no.4:690-696 J1-Ag
'64. (MIRA 18:6)

1. Laboratoriya khimii nukleinovyykh kislot khimicheskogo
fakul'teta Gosudarstvennogo universiteta imeni Lomonosova,
Moskva.

RYABOVA, I.S.; SESEAROVA, Z.A.; PROKOF'YEV, M.A.

Synthesis of adenylyl-(5'→N)-phenylalanylvalylglycine. Vest.Mosk.
un.Ser.2:khim. 20 no.3:89-90 My-Je '65.

(MIRA 18:8)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.

NECHAKOV, V.G.; SHABAROVA, E.A.; SPOKOP'YEV, M.A.

Study of the kinetics of ADP-amino acid hydrolysis. Biokhimiia
30 no. 1974-80 July '65. (MIRA 18:6)

1. Laboratoriya Khimii nukleinovykh kislot khimicheskogo
fakul'teta Gosudarstvennogo universiteta imeni Lomonosova,
Moskva.

MANSUROVA, S. E.; SHABAROVA, Z.A.; KULAYEV, I.S.

General characteristics of some new nucleotide containing acid
soluble compounds isolated from the mycelium of *Penicillium*
chrysogenum Thom. *Biochimia* 30 no. 3:514-522 My-Je '65
(MIRA 19:1)

1. Khimicheskiy i biologicheskiy fakul'tety Gosudarstvennogo
universiteta imeni Lomonosova, Moskva.

VOROB'YEV, O.Ye.; SOKOLOVA, N.I.; MEL'NIKOVA, V.I.; SHABAROVA, Z.A.;
PROKOF'YEV, M.A.

Dinucleoside phospho-($P_m \rightarrow N$)-amino acid. Dokl. AN SSSR 166
no.1:95-98 Ja '66. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet. Submitted April 21,
1965.

L 20371-65 EWT(m)/EPF(c)/EWP(j)/ Pc=4/Pr=4 RPL RM
ACCESSION NR: AP4045099 S/0020/64/158/001/0143/0148

AUTHOR: Vorob'yev, O. Ye.; Shabarova, Z. A.; Prokof'yev, M. A.

TITLE: Synthesis of nucleotidyl-(P-N)-phenylalanine by the pyrophosphate method

SOURCE: AN SSSR. Doklady*, v. 158, no. 1, 1964, 143-146

TOPIC TAGS: nucleotidyl aminoacid-ester, phosphonamide, P N bond stability, phosphonamide bond, synthesis

ABSTRACT: The following nucleotidyl-(P-N)-amino acid esters were synthesized by phosphorylating the amino acid esters with the nucleozid-diphenyl-pyrophosphate (I): uridyl-(5'-N)-phenylalanine (II), adenyl-(5'-N)-phenylalanine (III), guanylyl-(5'-N)-phenylalanine (IV), and 2', 5'-di-O-acetyl-uridyl-(3'-N)-phenylalanine (V) methyl esters. I was prepared by condensing a 1-2 fold excess of diphenylchlorophosphate with the nucleotide, as a mono-(tri-n-octylammonium salt), in the presence of tri-n-butylamine in dioxane (II, V) or dimethylformamide (III, IV). The product was washed with ether and reacted directly with the amino acid

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ACCESSION NR: AP4045099

2

ester at room temperature for 12 hours. These products were ether-washed and paper chromatographically purified. The phosphonamide bond in II, III, and IV hydrolysed completely in acid but was essentially stable at pH 5.4-14. The stability of the P-N bond in uridyl-(3'-N)-phenylalanine depended on the presence of a protective group on the ribose: if the acetyl group were removed the P-N bond hydrolysed even in alkaline medium. Orig. art. has: 1 table, 1 equation and 2 formulae.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 18Mar64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 006

OTHER: 007

Card 2/2

SHABAROVA, Z.I.
VORONKOV, M.G.; DOLGOV, B.N.; SHABAROVA, Z.I.

Using polyorganosiloxanols for increasing the water resistance of
building materials. Zhur.prikl.khim. 30 no.8:1221-1227 Ag '57.
(MIRA 11:1)

1. Institut khimii silikatov Akademii nauk SSSR.
(Silicon organic compounds)
(Building materials)

SOV/62-59-6-10/36

5(4)
 AUTHORS: Ryskin, Ya. I., Voronkov, M. G., Shabarova, Z. I.
 TITLE: The Infrared Absorption Spectrum of Triethyl Silanole-d,
 $(C_2H_5)_3SiOD$ (Infrakrasnyy spektr pogloshcheniya trietilsilanol-a-d, $(C_2H_5)_3SiOD$)
 PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
 1959, Nr 6, pp 1019 - 1024 (USSR)
 ABSTRACT: Two syntheses for the preparation of trialkylsilanole-d₁ and
 dialkylsilandiole-d₂ were worked out. They consist in an
 addition of etheric- or dioxane ether solutions of D_2O to a
 mixture of trialkyl chlorosilane, tertiary amine, and ethers,
 which was cooled down to 0° . In the experimental part the syn-
 thesis is described still more in detail. The infrared spectrum
 was taken from the synthesized triethyl silanole (TES). Figure 1
 represents the spectrum of the pure (TES) a) and of (TES)
 dissolved in CCl_4 b). For the purpose of comparison, also
 the spectra of $(C_2H_5)_3SiOH$ and $(C_2H_5)_3SiOX$ with $X=F, Cl, NH_2,$
 CH_3, C_2H_5 were recorded. (Fig 2). The fundamental oscillation

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The Infrared Absorption Spectrum of Triethyl Silanole-d, SOV/62-59-6-10/36
 $(C_2H_5)_3SiOD$

frequencies in the oscillation range of from $4000-700\text{ cm}^{-1}$ were assigned to the different bonds in the compounds. The ratio of the isolated oscillation frequencies of the groups OH and OD was 1.34. The authors thank Ye. F. Gracov for discussing the results obtained. There are 2 figures and 18 references, 6 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Chemistry of Silicates of the Academy of Sciences, USSR)

SUBMITTED: July 27, 1957

Card 2/2

5(3)

AUTHORS:

Voronkov, M. G., Shabarova, Z. I.

SOV/79-29-5-27/75

TITLE:

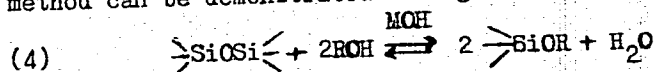
Investigations in the Field of Alkoxy-silanes (Issledovaniya v oblasti alkoksissilanov).
14. Cleavage of Organosiloxanes With Alcohols as Method of Synthesizing Organoalkoxy-silanes (14. Rasshchepleniye organosiloksanov spirtami kak metod sinteza organoalkoksissilanov)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1528-1534 (USSR)

ABSTRACT:

It is known (Refs 3 - 9) that organosiloxanes are cleaved by hydroxides of alkali metals with the corresponding silanates and silanols being formed. There are further indications (Refs 10 - 12) that silanols react with alcohols and yield alkoxy-silanes. In order to devise a method for synthesizing organoalkoxy-silanes by means of cleavage of organosiloxanes with alcohols in the presence of alkali, the two reaction mentioned were combined in the work under review. The scheme of this new method can be demonstrated in a general form by the equation (4)



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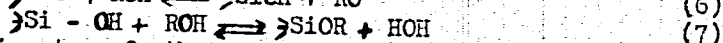
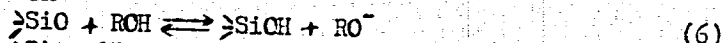
M - atom of the alkali metal. By the application of this new

Investigations in the Field of Alkoxy-silanes.

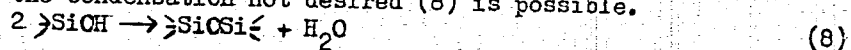
SOV/79-29-5-27/75

14. Cleavage of Organosiloxanes With Alcohols as Method of Synthesizing Organoalkoxy-silanes

method it was possible to obtain 35 organoalkoxy silanes $R'Si(OR)_n$ (Table). $n - 1, 2$ and 3 ; $R' - CH_3$ or C_6H_5 ; $R -$ primary (normal or iso) or secondary alkyl radical with 4-12 carbon atoms. 8 of these compounds were synthesized for the first time. The reaction mechanism of the formation of organoalkoxy-silanes from organosiloxanes and alcohols can be illustrated by the following scheme:

$$\begin{array}{c} \text{>Si} \text{---} \text{O} \text{---} \text{Si} \text{<} \rightleftharpoons \text{>SiOR} + \text{O} \text{---} \text{Si} \text{<} \\ \uparrow \\ \text{OR}^- \end{array} \quad (5)$$


In addition to a further reaction of silanol with alcohol (7) also the condensation not desired (8) is possible.



There are 1 table and 18 references, 7 of which are Soviet.

ASSOCIATION:
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Institut khimii silikatov Akademii nauk SSSR
(Institute of Silicate Chemistry of the Academy of Sciences, USSR)

S/079/60/030/06/04/009
B002/B016

53700

AUTHORS:

Voronkov, M. G., Shabarova, Z. I.

TITLE:

Investigations in the Field of Alkoxy Silanes.
15. Cleavage Reaction of Hexaalkyl-disiloxanes by Means of Phenols. New Method of Synthesizing Trialkyl Siloxy Derivatives of Aromatic Hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 6, pp. 1955-1958

TEXT: In addition to a previous paper by the authors (Ref. 1) (cleavage of alkoxy-siloxanes by means of alcohols), the same cleavage reaction was attempted here by means of phenols. The phenols have a strongly acid nature, the cleavage mechanism must be electrophilic, since the disiloxanes possess an electrophilic and a nucleophilic center. According to indications in publications which are referred to, strong protonic or aprotic acids are therefore used as catalysts. The necessity of using these acids was confirmed experimentally in the present paper. The best catalysts were aromatic sulfo acids, especially benzene sulfo acid

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Investigations in the Field of Alkoxy Silanes. S/079/60/030/06/04/009
15. Cleavage Reaction of Hexaalkyl-disiloxanes B002/B016
by Means of Phenols. New Method of Synthesizing Trialkyl Siloxy Derivatives
of Aromatic Hydrocarbons

(less convenient H_2SO_4 and $ZnCl_2$). Hexamethyl disiloxane could be cleft with phenol and its derivatives (all three isomers of cresol, p-chloro phenol, and phloroglucinol). The mono- and polytrialkyl-siloxy derivatives of the afore-mentioned aromatic compounds could thus be prepared. Six of these compounds have so far not been described. The reaction was performed in a flask with water outlet and a counter-current condenser. The mixture of 0.2 gram-mole of phenol, 1 g of catalyst, and 0.4 gram-mole of hexamethyl siloxane was boiled until water separated out, and the reaction mixture was distilled off. Yields, physical properties, and analytical data of all compounds synthesized are summarized in a table. Trimethyl siloxy-benzene was also synthesized with H_2SO_4 and $ZnCl_2$. In contrast with the 72% yields obtained with benzene sulfo acids, however, only a yield of 50 and 15%, respectively, could be obtained. All analyses were performed by Yu. N. Platonov, to whom the authors express their gratitude. The reaction scheme is assumed to be as follows:

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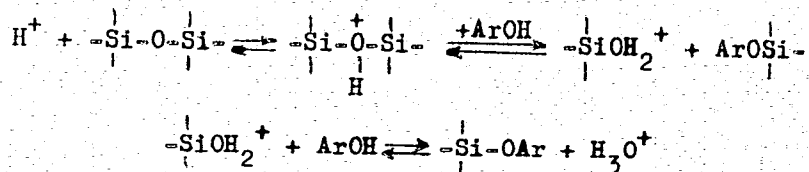
Investigations in the Field of Alkoxy Silanes.

S/079/60/030/04/009

15. Cleavage Reaction of Hexaalkyl-disiloxanes

B002/B016

by Means of Phenols. New Method of Synthesizing Trialkyl Siloxy Derivatives of Aromatic Hydrocarbons



There are 1 table and 8 references: 5 Soviet, 1 Scandinavian, and 1 American.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences of the USSR)

SUBMITTED: June 11, 1960

Card 3/3

PREOBRAZHENSKAYA, N.N.; SOKOLOVA, N.I.; SHABAROVA, Z.I.; PROKOF'YEV, M.A.

Synthesis and properties of methyl ester of polyuridylyl-
(5'→N)-phenylalanine. Khim. prirod. soed. no.5:342-347 '65.
(MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Submitted May 25, 1965.

RODIONOV, V.V.; SHABARSHOV, I.A.

[Multistoried beehive and the methods of bee culture]
Mnogokorpusnyi ulei i metody pchelovozhdeniia. Moskva,
Izd-vo sel'khoz. lit-ry zhurnalov i plakatov, 1963. 53 p.
(MIRA 17:9)

BATRAK, Ye.T.; BUBINA, N.G.; GORELOVA, T.N.; KORDIN, Yu.A.; KRYUKOV, B.I.;
KUKUSHKINA, I.N.; LAZARYAN, V.A.; POLYAKOVA, Zh.D.; SHABARSHOVA, A.V.
(Dnepropetrovsk)

"Study of regular displacement behaviours of bulk material over vibrating
rough surface realizing given motion"

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 January - 5 February 1964

LEVINSKIY, Iosif Viktorovich; SHABAS, E.D., inzhener, retsenzent; SCROKA,
M.S., redaktor; LYKHOTA, M.A., tekhnicheskiiy redaktor

[Safety manual for foundry cleaners working with pneumatic hammers]
Pamiatka po tekhnike bezopasnosti dlia obrabshchikov, rabotaiushchikh
s pnevmaticheskimi molotkami. Kiev, Gos. nauchno-tekhn. izd-vo
mashinostroit. lit-ry, 1956. 32 p. (MLA 10:2)
(Founding--Safety measures) (Pneumatic tools)

SHABASH, L. Ya., gornyy inzh.; SHESTAKOV, A. M., gornyy inzh.; VOLOSHIN, N. Ya.,
gornyy inzh.

Investigating stresses in the axis of unloading gate rollers of an
ISDM skip hoist. Gor. zhur. no. 6:76-77 Je '65. (MIRA 18:7)

1. Institut Giprorudmash, Krivoy Rog.

ZUYEV, D.A.; SHABASH, L.Ye.

Hood for removing dust from bunkers. Shor.rats.predl.vredr.v
proizv. no.1:7-8 '61. (MIRA 14:7)

1. Rudoupravleniye im. Dzerzhinskogo, shakhta "Gigant."
(Mine dust--Safety measures)

PATLAN', N.N.; SHABASH, L.Ye.; FEDOROV, P.I.

Metal chute with a drum feeder and pneumatic drive. Sbor.
rats. predl. vnedr. v proizvod. no.2:8-9 '61. (MIRA 14:7)

1. Rudoupravleniye imeni Dzerzhinskogo, shakhta "Gigant".
(Mining machinery)

SHABASHEV, A.V., inzh.

Investigating the precision in solving technological problems
of mounting special reeds. Sbor. st. NIILTEKMASH no.3:154-163
'57. (MIRA 12:10)

(Textile machinery)

SHABASHOV, P., nichman sverkhstrochnoy sluzhby.

How we eliminate errors in sound reading. Voen. aviaz. 16 no.1:2?
Ja '58. (MIRA 11:2)

(Morse code--Study and teaching)

RODOV, G.S.; BECHENEVA, G.V.; SHABASHKEVICH, A.B.

Reinforced concrete poles with prestressed reinforcements for transmission lines. Trudy Inst. antiseism. stroi. AN Turk. SSR 3:27-51 '58.

(MIRA 13:10)

(Electric lines--Poles)

BECHENEVA, G.V.; KUPTSINOVA, A.S.; SHABASHKEVICH, A.B.

Reinforced concrete poles with prestressed armature for communication lines. Izv. AN Turk. SSR no.4:29-35 '58. (MIRA 11:10)

1. Institut antiseysmicheskogo stroitel'stva AN Turkmenskoy SSR.
(Turkmenistan--Electric lines--Poles)
(Prestressed concrete construction)

NICHIPORENKO, S.P., SHABASHKEVICH, L.B.

Glass

Methods of studying the structural-mechanical properties of a ceramic mass.

Stok. 1 ker. 9 No. 4, 1952

9. Monthly List of Russian Accessions, Library of Congress, August 195~~6~~² Uncl.

CHERNYAK, E.N.; SHABASHKEVICH, P.G.

Ambulant treatment of patients with fungus diseases. Zdrav.^{Turk.}
7 no.1:36-37 Ja. ~~13~~. (MIRA 16:3)

1. Iz Turkmenskogo nauchno-issledovatel'skogo instituta kozhnykh
bolezney (dir. M.E. Ereshev) i kozhno-venerologicheskogo dispansera
(glavnyy vrach I.D. Leyvi).

(MYCOSIS)

ARUTYUNOVA, S.S.; SHABASHKEVICH, P.G.

Treatment of trichomycosis with epilin. Zdrav. Turk. 7 no.4:
36-40 Ap'63. (MIRA 16:6)

1. Iz Turkmenskogo nauchno-issledovatel'skogo instituta kozh-
nykh bolezney (dir. - M.E.Ereshov, nauchnyy rukovoditel' -
prof. N.F.Rodyakin) i Ashkhabadskogo gorodskogo kozhno-ve-
nerologicheskogo dispansera (glavnyy vrach - I.D.Layvi)
(HAIR-DISEASES) (EPILIN)

SHABASHOV, A. P.

PA 51T76

USSR/Mines

Mining Machinery

Excavating Machinery

Mar 1948

"The Rotary-Blade Excavator," A. P. Shabashov,
Mash-Mech, $\frac{1}{2}$ p

"Gornyy Zhur" No 3

Describes main characteristics of the rotary-blade
excavator, and its advantages. Includes photograph
of machine, and table of productivity under various
conditions.

LC

51T76

SHABASHOV, A. P.; SOKOLOVSKIY, V. I.; SOKOLOVSKIY, I. B., Prof.

Excavating Machinery

Increasing the productivity of the ESh-10 walking excavators. Mekh. stroi. 9,
No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.